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EXAMINER

PIERCE, JEREMY R

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/034,907  
Filing Date: December 27, 2001  
Appellant(s): SUTHERLAND ET AL.

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Michael E. Martin  
For Appellant

**EXAMINER'S ANSWER**

**MAILED**

SEP 30 2005

**GROUP 1700**

This is in response to the appeal brief filed June 23, 2005 appealing from the Office action mailed October 20, 2004.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is substantially correct. This appeal involves claims 11-16, 18, and 19.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

US 6,268,450	Wade	7-2001
US 5,503,917	Hughes	4-1996
US 3,417,794	Lynch et al.	12-1968
US 2,039,987	Goldman	5-1936
US 4,751,117	Goodfellow	6-1988

Complete Textile Glossary, 2001, Celanese Acetate, LLC.

### **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

A. Claims 14, 16, 18, and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 14 and 16 recite that the yarn weight is "not less than a yarn number of about 24." How is this measured? According to the Textile Glossary (attached to the Office Action), "yarn number" is a relative measure of the fineness of the yarns. It is not clear how Appellant is measuring the yarn number here in the present application, since no units are provided in the claims or specification. Is it linear density, or the reciprocal to linear density? The number "24" would normally indicate that the reciprocal to linear density was being measured, however, the material for the yarn is not natural fiber (i.e. cotton). The Examiner will assume that a relatively finer denier fiber is being claimed, although it is not clear.

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B. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Edwards et al. (U.S. Patent No. 6,037,280) in view of Wade (U.S. Patent No. 6,268,450) and further in view of Hughes (U.S. Patent No. 5,503,917).

Edwards et al. disclose a porous woven fabric that has increased ultraviolet blocking (column 4, lines 7-12). Edwards et al. disclose using standard acrylic fibers in the woven material, but the reference does not disclose using acrylonitrile fiber. Wade discloses fibers particularly suited for use in outdoors textiles because of their UV stability (column 1, lines 11-14) that comprise up to 98% acrylonitrile (column 2, lines 11-14). It would have been obvious to one having ordinary skill in the art to use the acrylonitrile fibers disclosed by Wade in the textile taught by Edwards in order to provide a woven material with improved UV stability, as taught by Wade. With regard to the limitation that the fiber is pigmented, providing any desired color to the fabric would be obvious to one skilled in the art as a matter of design choice. With regard to the size of the openings, Edwards et al. disclose forming a porous woven fabric, but do not disclose the size of the openings. Hughes teaches the ratio of apertures to thread is a result effective variable that increases breathability and decreases UV protection when the apertures are great, and vice-versa when the apertures are less (column 1, lines 15-54). Absent the finding of unexpected results with using apertures with a size between 0.03 and 0.25 inches, it would have been obvious to one having ordinary skill in the art to adjust the openings in the fabric of Edwards et al. to the claimed range of about 0.03 to 0.25 inches in order to optimize the breathability and UV protection properties for the intended use, since it has been held that where the general conditions of a claim are

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disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. With regard to the percentages of A and B category UV light transmitted, achieving the desired percentages would also be a matter of adjusting the result effective variable of the size of the openings, and would be obvious to provide in order to achieve desired final properties of the fabric.

C. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edwards et al. in view of Wade and Hughes as applied above to claim 11, and further in view of Lynch et al. (U.S. Patent No. 3,417,794).

Edwards et al. fail to teach grouping the threads into groups of three. Lynch et al. disclose that shade screens may have a configuration where the warp threads or the weft threads are formed in groups of three (Figures 1 and 2). Such a configuration provides good see-through visibility and reduces glare (column 1, lines 45-62). It would have been obvious to a person having ordinary skill in the art at the time of the invention to use a group of three threads in the warp or the weft in the fabric of Edwards et al. in order to improve the see-through visibility and reduce glare, as taught by Lynch et al. to be known within the shade screen art.

D. Claims 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edwards et al. in view of Wade and Hughes as applied above to claim 11, and further in view of Goldman (U.S. Patent No. 2,039,987).

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Edwards et al. do not teach the yarn weight to be less than a yarn number of about 24. Goldman teaches an open weave sun screening material (Figures). Goldman teaches that it is desirable for the fabric to remain exceedingly thin so as to be translucent to a marked degree (column 2, line 23-30). It would have been obvious to a person having ordinary skill in the art at the time of the invention to use fine yarn with a yarn number not less than 24 in the material of Edwards et al. in order to provide a thin, partially translucent fabric, since Goldman teaches that such thin fabrics are desired in the art of sun screening.

E. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Edwards et al. in view of Wade, Hughes, and Goldman as applied above to claim 14, and further in view of Goodfellow (U.S. Patent No. 4,751,117).

Edwards et al. do not teach the yarn to be 2 ply. However, it is generally accepted in the art of textiles that plying yarn increases strength. Goodfellow teaches that providing a yarn with 2 plies increases strength (column 2, lines 12-13). It would have been obvious to a person having ordinary skill in the art at the time of the invention to use 2 ply yarn in Edwards et al. in order to increase the strength of the fabric, as taught to be known by Goodfellow.

F. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edwards et al. in view of Wade, Hughes, and Goldman as applied above to claim

16 in section D above, and further in view of Lynch et al. as applied to claims 12 and 13 in section C above.

#### **(10) Response to Argument**

Appellant argues that the term "yarn number" is a defined term in the art, as indicated by the Complete Textile Glossary cited by the Examiner. Appellant thus submits that one of skill in the art would use the meaning as set forth in a glossary of the art, and thus the claimed "yarn number" is clear. The Examiner agrees with the Appellant that "yarn number" is indeed a term recognized in the art. However, the definition of "yarn number" clearly states that it is a "relative measure of the fineness of the yarns." Appellant provides no units of measure to correspond to the claimed yarn number of 24, so it does not define what the fineness is relative to. In rejecting the claims based on indefiniteness, the Examiner is not asking, "What is yarn number?" Yarn number is a clearly defined term of art. Rather, when Appellant states that the yarn weight is not less than a yarn number of 24, the Examiner is asking, "24 what?" What is the number 24 relative to? It is noted that yarn number can either be defined by (1) mass per unit length of yarn or (2) length per unit mass of yarn. But Appellant provides neither the unit of mass being used to measure the yarn nor does the Appellant provide the unit of length. In order for the number 24 to have any meaning, it must be understood what units are involved in arriving at that number. Thus, without any units to define the "relative measure" of the fineness of the yarn, the claims are indefinite.



Appellant argues that Edwards fills the pores or spaces of the fabric with UV blocking particles and thus the fabric of Edwards loses the advantages of light transmissivity, visual perception therethrough, and breathability provided by Appellants' claimed articles. However, the Examiner notes that the UV blocking particles disclosed by Edwards have a size of only 15 microns (column 4, lines 60-62). Such a small particle would not completely block a pore. In fact, Edwards teaches the preferred method for attaching the UV blocking particles to the fabric is by using a binding agent (column 5, lines 13-14). Thus, although some small particles may reside in the pores, they would not block the pores of the Edwards fabric. Appellants' claims do not preclude either UV blocking particles or binding agent.

Appellant argues that light transmissivity and visual perception therethrough would not, normally, be desired in clothing articles. However, Edwards is not limited to clothing articles. Edwards teaches the invention may be used in awnings, sunscreens, umbrellas, tents and several other applications (column 3, lines 40-55). It is also noted that the features such as visual perception therethrough are not found in the claims.

Appellants argues that Edwards does not teach the provision of fabric with a specified size range of openings and specified range of UV blocking capability. However, this concept is already known in the art in light of the teachings of Hughes. In response to Appellant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Hughes

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teaches the concept of adjusting the ratio between surface area occupied by fibers and surface area occupied by apertures (column 1, lines 15-55). Thus, more UV blocking capability is achieved with a higher ratio of surface area occupied by fibers and more breathability is achieved with a higher ratio of surface area occupied by apertures.

Appellant is only claiming a workable range within this concept. Absent a finding of unexpected results, a person of ordinary skill in the art has been provided with sufficient teaching from Hughes to optimize within the workable ranges of fiber area compared to aperture area.

Appellant argues that Edwards teaches away from providing openings in the fabric. Appellant appears to base this argument on the fact that Edwards teaches clothing material. However, as previously stated, Edwards teaches a broad range of UV blocking material, including awnings, sunscreens, umbrellas, tents and several other applications (column 3, lines 40-55). Edwards is not limited to clothing.

Appellant argues that substituting an acrylic fiber polymer precursor, as suggested by Wade would still not provide the overall combination of the features required by claim 11. However, Wade is only relied to teach the use of acrylonitrile fibers. All other claim limitations are met by the combination of Edwards with Hughes.

Appellant argues that Hughes does not disclose or suggest the provision of a 100% pigmented acrylonitrile polymer with a weave density to provide opening sizes in the fabric in the range required by claim 11. In response to Appellant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references.

Additionally, this argument attacks what Hughes and anticipates and does not attack the obviousness rejection set forth above. Where the rejection is based upon obviousness from the teachings of a reference, the Appellant cannot overcome the rejection by stating there is no anticipation of the claimed features. Hughes teaches the concept of adjusting aperture size to provide for varying amount of UV protection and breathability. Where the general conditions of a claim are met, discovering the optimum or workable ranges involves only routine skill in the art.

Appellant argues that the combination of Lynch with Edwards, Wade, and Hughes does not render claims 12 or 13 obvious because Edwards, Wade, and Hughes fail to provide the invention as set forth in claim 11. However, the Examiner believes Edwards, Wade, and Hughes do render obvious the limitations of claim 11, as set forth above. Therefore, this argument is moot.

Appellant argues that the combination of Goldman with Edwards, Wade, and Hughes does not render claims 14 or 16 obvious because Edwards, Wade, and Hughes fail to provide the invention as set forth in claim 11. Appellant then asserts similar arguments against the Edwards reference that have already been addressed previously. The Examiner believes the combination of Edwards, Wade, and Hughes renders obvious the limitations of claim 11, as argued above. Therefore, this argument is moot.

Appellant argues that Goodfellow provides no suggestion that leads one of ordinary skill in the art to make the overall combination of features set forth in claim 15. In response to Appellant's arguments against the references individually, one cannot

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show nonobviousness by attacking references individually where the rejections are based on combinations of references.

With regard to claims 18 and 19, Appellant argues that the Examiner has relied on a total of five references. In response to Appellant's argument that the Examiner has combined an excessive number of references, reliance on a large number of references in a rejection does not, without more, weigh against the obviousness of the claimed invention. See *In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991).

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,




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PRIMARY EXAMINER